Involuntary non-standard employment: evidence from Italian regions

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Abstract

Using European Union Labour Force Survey data on over 2.5 million workers in Italian regions for the period 1999-2010, we investigate the determinants of involuntary non-standard (temporary and part-time) employment (INE). We find that regional differences significantly affect the probability of workers being involuntarily employed in non-standard jobs, with higher probabilities for workers in the southern and insular regions than in the rest of the country. Women, young individuals, and low-skilled workers are particularly at risk of INE. The same holds for graduates, whose chances of finding satisfactory full-time permanent jobs are lower than those of individuals with diplomas. Finally, we find that INE follows a counter-cyclical behaviour, with it more likely to be higher when GDP growth is low and unemployment high.

JEL classification: J21, R12, R23

Keywords: Involuntary employment, regions, part-time employment, temporary employment, non-standard employment

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1. Introduction

Attention on labour market trends has traditionally focused on the unemployment rate as the yardstick of reference. Yet it is increasingly recognised that such an indicator provides only a partial understanding of labour market developments, especially following economic crises (Basso et al., 2011; Eichhorst et al., 2010) since, for example, individuals losing their job may exit the labour force and become 'hidden unemployed' (Agbola, 2005).

The focus of this paper is on an altogether different construct that deals with individuals accepting, *involuntarily*, non-standard (part-time or temporary) jobs due to the lack of alternatives. Involuntary non-standard employment (henceforth, INE) is just beginning to become the focus of policy (CEDEFOP, 2012) and public debates (for Italy see IlSole24Ore, 2013). A key feature of this labour market indicator is the involuntary nature of this type of employment, with those employed in such jobs explicitly declaring that they accepted them only because they could not find a full-time and/or permanent position (de Jong et al., 2007).

Although there is no universally accepted definition of non-standard employment, since the work by Kalleberg et al. (1997), much of the literature refers to it as employment relationships that differ from what has been traditionally practiced as the standard (employer-employee) work arrangement, namely, full-time work based on a contract of open-ended duration. Thus, as understood for our purposes, the term 'non-standard' refers to employment arrangements such as part-time and/or temporary contracts, performed under an employer's administrative control, which – albeit relatively common - are by this definition 'non-standard' (see also Green and Livanos 2013; Olsen and Kalleberg, 2004; Tealdi, 2011). Thus defined, non-standard work (which rules out self-employment), is inherently connected to two social phenomena of increasing importance: casualisation and externalisation. The former simply refers to the increased utilisation of part-time and temporary workers, while the latter to the now pervasive adoption of contractors or intermediaries to hire such workers (Theron, 2014).

Of course, some 'hard-nosed' neoclassical economists may regard taking 'non-standard' forms of employment such as part-time and temporary work against which to contrast the archetypical 'standard' employment arrangement, a questionable dichotomy. They may suggest, for example, that contract duration and working hours could be viewed simply as mere attributes of labour contracts that are directly subject to the interplay of demand and supply forces in the labour market and, thus, determined as a natural equilibrium

outcome. However, as we hope to demonstrate in this paper, the Italian figures on INE are inevitably also the result of labour market reforms that are precisely meant to regulate the balance of forces between the social parties, and which have nevertheless led to an outcome that is far from what could be regarded as a 'natural' - let alone socially just - institutional labour market 'equilibrium position'.

Given the above, we regard the INE labour market indicator as a particularly important one, especially given the current economic climate, since increasing levels of INE may, rather than signal the future pool of those to be employed full-time and permanently, simply lead to increasing levels of precariousness (De Graaf-Zijl et al., 2011), which is, by definition, an insecure, lower-paid and unprotected form of employment vis-à-vis 'standard' work arrangements (Standing, 2011).

Despite its importance, academic research on INE is still scant. Cam (2012) investigates the relationship between involuntary part-time work and demographic and working circumstances finding a positive correlation of the former with low educational and occupational levels in the UK. Kauhanen (2008) examines the determinants of both part-time work and involuntary part-time work in the private service sector in Finland, finding that females, middle-aged, and low-educated people are more likely to be involuntary part-timers. Kauhanen and Nätti (2011) report negative consequences of involuntary part-time employment on job quality indicators such as training and career prospects. Few studies on temporary employment have focused on the differences between workers accepting temporary contracts willingly, and those doing so involuntarily. For instance, Amuedo-Dorantes (2000) find that temporary employment in Spain is primarily involuntary, while Nuñez and Livanos (2011) investigates the causes of different types of temporary employment in Europe and find that females, younger people, singles and non-national workers are more likely to be in temporary employment involuntarily.

As can be gauged from this brief review, the limited work in this area has focused more on involuntary part-time employment than on involuntary temporary employment, and rarely the two phenomena have been investigated within the same framework. One notable exception is the study by Green and Livanos (2013) on the determinants of INE in the UK. Their findings suggest that young people, individuals from non-white ethnic groups, and those in economically weak regions are at particular risk of INE.

The present study contributes to this debate by investigating the determinants of INE in Italian regions during the most recent decade. Our paper contributes to this literature in

three important respects. First, following the approach pioneered by Green and Livano (2013), our analysis takes account of both involuntary part-time and involuntary temporary employment simultaneously, by making use of a unique cross-tabulated INE index constructed from European Union Labour Force Survey (EU-LFS) data on over 2.5 million workers in Italy for the period 1999-2010. Data about INE is notoriously difficult to come by, but an additional advantage of this dataset is that the recent sample period also allows us to examine the effect of the most recent economic crisis on INE.

Second, with very few exceptions, the limited research on INE has mainly focused on demographic (gender and age group) characteristics thus overlooking the spatial dimension, particularly with respect to intra-national, regional disparities (especially in countries like Italy, where they are particularly marked). Regional differences are important for various reasons, not least the fact that national comparisons may be misleading if marked regional disparities are ignored. Accordingly, our study investigates INE not only by accounting for specific socio-demographic characteristics and economic conditions but also by considering the regional context in which such employment occurs.

Finally, our choice of the Italian setting provides a novel and particularly informative case to analyse INE in relation to two additional dimensions connected to the phenomenon in question. The first pertains to the impact of labour market reforms. At the end of the 1990s a wave of reforms started changing the institutional set-up of the Italian labour market with the declared aim of increasing flexibility. By regulating many forms of non-standard employment these reforms reduced the strength of employment protections thus favouring the spreading of temporary and part-time contracts (Nannicini, 2004a). In 1997, Law 196, known as '*Legge* Treu' (Tiziano Treu was Minster of State for Employment at the time) concentrated on temporary employment, while a few years later Law 30/2003, known as '*Legge* Biagi' (Marco Biagi, a labour law government consultant, was murdered by terrorists in 2002 for his work on that reform), dealt specifically with the controversial issue of part-time employment (alongside 'project work'). Several additional legislative decrees and laws updated these two main reforms in subsequent years (decrees D.Lgs. 368/2001 and D.Lgs. 251/2004, and laws 80/2005 and 133/2008, are a case in point). Given our sample period, our choice of Italy, therefore, also permits us to investigate the impact of the Italian labour market reforms.

The second dimension that makes the Italian landscape particularly interesting for our purposes relates to the large economic disparities existing between Northern and Southern regions (see Terrasi, 1999). Of course, the Italian regional divide has also been studied in

relation to the labour market (see Bruno et al., 2012; Destefanis and Fonseca, 2007; Ichino et al., 2008). Some of this literature also investigated the so-called 'stepping stone' effect of temporary employment (toward standard employment). Yet none of the work conducted thus far has specifically examined regional labour market disparities with a focus on the involuntary nature of non-standard employment or in relation to an aggregated INE construct, thus leaving a glaring gap to be filled by the present study.

2. The Italian context and some stylised facts

Since the early 1990s, most European countries embarked on a process of labour market reforms aimed at increasing flexibility and security, now commonly referred to as 'flexicurity' (Heyes, 2011). Notwithstanding the inevitable cross-national differences in the strength of employment protections and support for the unemployed, Heyes' (2011) lucid analysis unveils evidence of convergence by EU member states in labour market policies over the past two decades; a convergence marked by an 'emulation' pattern reflecting the less generous traditions (in terms of unemployment benefits for example), and a dominant trend actually characterised by less security. Furthermore, this process appears to have led to an increase in the number of non-standard contracts at the expense of full-time and permanent ones (European Commission, 2009). Italy, in these respects, was no exception (Tealdi, 2011).

In particular, '*Legge* Treu' legalised 'temporary work agencies' (which were forbidden under the previous 1960 Law 1369), without imposing any limits on the cumulated duration of fixed term contracts or legal reasons for using temporary labour. Moreover, '*Legge* Biagi' legalised 'project contracts' while abolishing any form of labour rights for employees on such contracts, including holidays, sick leave and maternity leave.

Whilst some commentators might argue that 'precariousness' is just a feature of jobs, and could be used to describe all jobs, it is precisely legislation of this kind that - in our view - draws a clear demarcation line between standard and non-standard work contracts, and which gives strong explanatory power to the notion of voluntary/involuntary employment particularly when analysed in relation to the effects of this legislation on both part-time and temporary forms of non-standard employment (hence justifying our aggregation in the empirical analysis that follows).

Such a rationale finds further strength from the still relatively mixed findings on the 'stepping stone' effect of temporary employment. As summed up by Bruno, Caroleo and Dessy (2012: 7): "The concrete risk is that less favoured workers (especially youth, women

and people living in the less favoured regions) fall into a dead-end relegating them, sometimes for a very long period of time, in working circuits characterised by temporary and/or part-time jobs, informal sectors without guarantees, long-term unemployment, with highly negative social effects."

Indeed, whilst flexibility is generally perceived by many European policy makers as a positive feature of labour markets (European Union, 2010), non-standard employment is often associated with negative working conditions, such as fewer opportunities for training and career progression, lower salaries, and limited access to supplementary benefits and social protection (Eurofound, 2007). Non-standard employment assumes particularly negative connotations when it occurs involuntarily, that is, when labour markets are unable to provide the right matching between employers and employees, and the latter are forced to accept non-standard contracts due to the lack of better alternatives. Factors advanced to account for involuntary employment typically include the inadequate distribution of skills, informational problems and geographical rigidities (Pissarides, 2000). These frictions are more likely to happen in a fast changing environment leading firms to manage their human resources more flexibly (Kalleberg, 2000).

As outlined in our introduction, the Italian labour market certainly qualifies as a fast changing environment given the incessant legislative interventions over the past twenty years. Most Italian firms have been increasingly reluctant to offer full-time and/or permanent jobs (Nannicini, 2004b). In Italy the diffusion of flexible labour contracts (temporary and part-time) has mainly affected the younger generations and women, thus reinforcing labour market segmentation while accentuating social inequalities. Flexibility has been perceived as a labour market feature favouring endless precariousness, thus increasing social conflict (Lodovici and Semenza, 2008).

Possibly owing to the low levels of household debt (which grew considerably less than in other countries in the years preceding the crisis), the economic consequences of the financial crisis started being felt in Italy only from 2008/09, when the crisis degenerated into a global recession. However, unlike other European countries such as Ireland and Spain that were booming before the crisis, Italy had been experiencing sluggish growth for almost two decades. Figure 1 shows real GDP growth in Italy from 1960 to 2012, with the downward sloping line being the linear trend fit of the data.

< FIGURE 1 HERE >

Another significant difference between the Italian economy and most of the other European countries lies in the large public debt, which in Italy was already above 100% of GDP in 2007, leaving an already unstable government with very little room for manoeuvre.

An even deeper understanding of the Italian economic landscape can be gained by looking at the underlying regional divide as portrayed by regional economic growth data. Figure 2 illustrates annual Gross Value Added (GVA) growth between 1990 and 2008 based on data for the five NUTS1 macro-regions (using data for the twenty-one NUTS2 regions would have made Figure 2 difficult to interpret). Although the growth rates of the five macro-regions tend to co-move, non-trivial regional disparities are recorded almost every year. For instance, in 2000 the GVA of the North-Eastern regions grew by more than 5%, while that of Sardegna and Sicilia (the islands) by less than 2%. Figure 2 also suggests that negative growth rates are more likely to occur in the Centre, South, and the islands.

< FIGURE 2 HERE >

To put our regional perspective into the labour market reforms context, it is particularly opportune at this point to present some stylised facts on the dynamics of the shares of part-time employment and involuntary part-time employment in Italian regions over the sample period 1999-2010 (our sample consists of almost 2,700,000 observations). Table A1 in Appendix 1 shows the shares of part-time employment and involuntary part-time employment in Italian regions shortly after the first big labour market reform (in 1999), after the second major labour reform (in 2004), and at the end of our sample period (in 2010).

A number of interesting features arise from the data in Table A1. First, the share of part-time employment over total employment increased significantly after the 2003 '*Legge* Biagi'. The share of this type of non-standard employment remained consistently lower in the Southern and insular regions, with the exception of Sardegna, where the incidence was comparable to that in Central regions.

The share of involuntary part-time employment over part-time employment displays even more diverging regional patterns. In 1999 less than one part-time worker out of three was unwillingly in that position in the Northern regions and in the Centre (with the exception of Lazio). However, more than one out of two was in that same condition in the rest of Italy, while for Calabria, three workers out of four. In 2004 those figures decreased in magnitude,

but the regional divide was still evident. In 2010 the data pertaining to Calabria and Sicilia are particularly pronounced, with three part-time workers out of four being employed involuntarily.

In all cases the shares of involuntary part-time workers are considerably higher than those reported for other countries. For example, in the UK, in 2010 only 12.2% of part-time workers could be classified as involuntary part-timers (Green and Livanos 2013), versus 47.0% in Italy in the same year. Abstracting from obvious differences in labour market characteristics and cultural attitudes, this may also reflect the different economic environment of the two countries, with Italy being characterised by low, if not negative, growth rates over the last two decades. This may well affect the probability of finding standard employment as well as individuals' perception about the precarious nature of their job.

Table A2 in Appendix 1 reports data on temporary employment. The share of temporary employment over total employment is higher in Southern and insular regions than in the rest of the country, consistently so throughout the sample period. As for the proportion of involuntary temporary workers, once again the numbers are smaller in the North and in Central regions, but in this case even in the latter regions the proportion of involuntary workers is extremely high. In 2004, half of the temporary workers were so involuntarily in the North and in the Centre (even more in the rest of the country), and in 2010 more than 50% of temporary employment was involuntary, with shares as high as 87% and 88% in Calabria and Sicilia, respectively.

Table A3 in Appendix 1 reports the share of INE over total employment. The share of INE over total employment is unevenly distributed across Italian regions, with a larger proportion in Southern and insular regions. An upward trend is also evident, as the INE share increased in every region since 1999. The country average went up from about 7% in 1999, at the beginning of substantial labour reforms, to more than 15% in 2010.

Finally, Table A4 in Appendix 1 presents descriptive statistics of the data used in the analysis, broken down by the full and INE samples of employees, according to various characteristics controlled for. Several interesting patterns emerge regarding the concentration of INE within certain groups. In particular, the most vulnerable groups of workers who have a higher share in INE than in total employment are females (63% in INE while just 40% in total employment), younger workers, and workers in elementary occupations. As for notable regional differences, Sicilia stands out, with a share of 12% for INE compared to 7% for total employment.

3. Data and model specification

Our empirical analysis is based on the EU-LFS, a household-level survey designed to gather information on the labour conditions of EU residents. The survey contains data on general demographic characteristics, education, labour market status, first job and flexible working patterns, second job, previous employment, and job seeking methods.

The EU-LFS, conducted by the national statistical agency of each member state under the coordination and guidance of Eurostat, is widely considered to provide reliable information due to its large sample size and sampling methods adopted (for a full LFS data description see European Commission, 2012). The Italian LFS started as a quarterly survey in 1959, with additional yearly data (annual averages) being released each year. We use annual data to avoid seasonality problems.

Given our focus on INE, we concentrate on individuals that the EU-LFS classifies as being employed under an employer's administrative control, i.e. individuals who 'during the reference week performed work, even for just one hour a week, for pay, profit or family gain or were not at work but had a job or business from which they were temporarily absent because of, e.g. illness, holidays, industrial dispute and education and training'. There is no specific question on being in INE in the EU-LFS, therefore, we need to combine information from a number of questions to create a unique variable indicating the INE status.

The full-time/part-time distinction refers to the main job and it is based on a spontaneous response by participants (not provided by the self-employed, who do not feature in our analysis). The type of contract, temporary or permanent, is also self-assessed by respondents. According to the Eurostat definition, employees with a limited duration contract are those whose main job will terminate either after a predetermined fixed period, or after a period not known in advance, but nevertheless defined by objective criteria such as the completion of an assignment.

Those questions do not carry any information on the involuntary status though. However, EU-LFS respondents are required to declare whether they work part-time as a result of being unable to find full-time work, and whether they work under limited duration contracts due to the inability to find a permanent job. In particular, follow-up questions ask both part-time and temporary workers about the reason for not being either in full-time or permanent contracts. Those answering 'Person could not find a full-time job' and/or 'Person could not find a permanent job' are classified as being in INE. We then combine these two

measures to create a unique INE binary variable taking value 1 if someone is in INE (in one or both categories) and 0 otherwise (if in any other form of employment, whether standard or non-standard).

For the econometric analysis we utilise Italian LFS data from 1999 to 2010 which allow us to capture not only the impact of various labour market reforms implemented over the sample period, but also that of the recent crisis. The regional dimension of the data is exploited by using the twenty-one NUTS2 regions of Italy.

The estimation of the socio-economic and regional factors explaining the incidence of INE is complicated by the need to use selection models, being the dependent variable only observed for a selected sample (labour market participants). From an econometric perspective, the use of INE as a dependent variable leads to a sample selection problem, as factors related with the outcome variable may intervene in the selection of the sample. A selected sample occurs when the outcome variable (y_2: being in INE) is observed only (y_2 = 1) for certain values of a selection variable y_1 (participation into the labour market), i.e. y_1 = 1. There are two possible scenarios arising from this situation. The first occurs when the outcome variable y_2 is independent of the selection variable y_1. In this case a two-step econometric model can be adopted ensuring both flexibility and computational tractability.

However, when the outcome variable y_2 is not randomly selected from the population, as in our analysis, selection models are more adequate as they control for dependency in the two-step model (Heckman, 1979). In particular, the two-step Heckman procedure allows us to model sequentially the selection equation and the INE equation. The first step consists of a Probit regression with y_1 as the dependent variable, to estimate the likelihood of labour market participation (this makes this model a Heckman-probit model). Then, the coefficients of this first-step regression are used to estimate the conditional probability of being in INE (y_2). A number of socio-economic and regional variables are used in the model, and in order to avoid identification problems, additional explanatory variables are used in the first-step regression. Those variables should be related with the selection variable and unrelated with the outcome variable. As it is customary in this type of regressions, we use the total number of young kids as an explanatory variable for labour market participation (Baum, 2006), and also educational level for the same purpose (Green and Livanos, 2013).

In the second-step equation we include individual-level socio-demographic and work-related variables, and NUTS2 region-specific variables. The socio-demographic variables are: 1) gender (a dummy taking value 1 if the individual is female, with male as the reference

category); 2) age (four dummies taking value 1 when the individual is in one of the age groups 24-35, 34-45, 44-55, and 54-65 since in Italy the retirement age is from 66 onwards, with 14-25 being the reference group); 3) marital status (dummies taking value 1 for 'singles' and for 'other' (widowed or divorced), with being 'married' taken as the reference category); 4) education level: 'low' (pre-primary, primary, and lower secondary education), 'medium' (upper secondary and post-secondary education such as vocational diplomas), and 'high' (first and second stage of tertiary education and above), with 'medium' used as the reference level; 5) occupation (dummies indicating the type of job: legislators, professionals, clerks, service workers, skilled agricultural, craftsmen, plant/machine operators, elementary jobs; with associate professionals as the reference category); 6) economic sector (agriculture, manufacturing, and services), with the latter being the reference category.

The regional variables are: 1) regional dummies - one for each of the twenty-one NUTS2 regions, with Lombardia (the biggest and richest region of the country) being the reference one; 2) regional unemployment (extrapolated from the micro-data of the LFS); 3) the regional share of youth (those aged 15 to 24) neither in employment, education or training (the so-called NEET rate, typically used as a proxy for social exclusion); 4) regional GVA growth (source: Cambridge Econometrics); 5) the share of regional employment in specific sectors likely to attract workers in part-time and temporary jobs (agriculture, construction, and hotels and restaurants). We include year dummies to account for common factors, although in an alternative specification we drop these dummies to include an ordinal variable accounting for the Italian major labour market reforms (the latter variable takes value zero in 1999 and 2000, value 1 from 2001 to 2003, and value 2 from 2004 onwards).

4. Empirical analysis

This section reports the results arising from estimation of two different specifications of the Heckman-Probit model to uncover factors affecting the likelihood of being in INE in Italy over 1999-2010. Table 1 reports the results obtained from the model with year dummies (with 1999 as the reference year). As it is customary in this type of analysis, we report marginal effects rather than the estimated coefficients, so that the numbers in the tables can be interpreted as *ceteris paribus* marginal effects on the probability of being in INE.

The focus of our analysis centres on the second-step regression results that are reported in section A of the table, though – for the sake of completeness - we also report the estimates of the selection equation in section B. According to the latter, the presence of

dependent children increases the probability of labour market participation, while both low and high levels of education are found to decrease it.

< TABLE 1 HERE >

The estimates contained in Table 1 provide interesting insights. Results suggest that women have a significantly higher chance of being in INE compared to men, by almost 7%. Although it is reasonable to expect a larger proportion of females to be in non-standard employment due to them voluntarily striving to practise their own preferential employment arrangements to suit their life's trajectories (Casey and Alach, 2004), or to factors such as their greater involvement in caring and childcare commitments (Caputo and Cianni, 2001; Craig and Powell, 2011; OECD, 1990), there is no justification for females being more likely to be in non-standard employment *involuntarily*. This result, therefore, suggests that it is harder for women to find an employment type of their preference, forcing many of them to accept working conditions that are not ideal.

As for age, it correlates negatively with INE. The reference group here is individuals aged 14 to 25. There is little difference (though statistically significant) between the 14-25 and the 24-35 groups, with the former being 1.3% more likely to be in INE than the latter. Yet we also find that such a difference increases with age, with the 54-65 group being 7.0% less likely to be in INE than the 14-25 group. This result suggests that young people have to go through long periods of screening before they are actually able to find standard work, and portrays the poor working conditions (less secure and lower paid working arrangements) faced by younger generations in Italy at times when economic growth has been mostly stagnant, if not declining. This situation is not uncommon in many other countries of the Eurozone, especially since the deleterious consequences of the financial crisis degenerated into a full-blown recession (OECD, 2010).

Marital status is also found to significantly affect the probability of being in INE. In particular, married individuals are less likely to be in INE than singles, and widowed or divorced ones. There is no consensus in the literature about the effect of being married on the probability of being in INE. Some studies find a positive relationship (for the UK case, see Green and Livanos 2013) while others a negative one (also for the UK, see Cam, 2012). One possible explanation for our finding for Italy may be that non-married individuals are less likely to be satisfied with the non-standard employment they have secured, possibly because

they have career ambitions that are poorly served by the non-standard job they have unwillingly accepted.

With respect to educational levels, while the difference between the marginal effect of having a low and a medium level of education is barely significant and very close to zero, highly educated individuals are found to be at greater risk of INE. This result, which may appear to be counter intuitive - and perplexing given previous findings for other countries – is, nevertheless, very indicative of the limited opportunities for highly educated individuals in the Italian labour market over the sample period. This finding is corroborated by evidence of an increasing trend in exiled graduates, with Italy now being the only country among its major EU trading partners (Germany, France, Spain, Britain) to record a net 'brain drain' (the number of highly educated Italians leaving the country exceeds the number of highly educated foreigners entering it); a phenomenon commonly typifying a developing economy (The Economist, 2011). This confirms that the employment prospects of Italian graduates are poor, leading many of those wishing to stay in Italy to accept non-standard jobs that do not match their preferences and qualifications. This evidence is also consistent with that provided by Nuñez and Livanos (2011), who found that having a degree does not increase the likelihood of employment in countries such as Greece, Portugal, and Italy.

Turning our attention to work characteristics, while highly-qualified workers and professionals are slightly less likely to be in INE than those in the reference category (associate professionals), workers in less qualified occupations are all more likely to be in INE. This is particularly true for workers in elementary, basic occupations, for whom the INE probability is almost 18% higher than that of the reference category, and for skilled agricultural workers, for whom the probability is more than 8% higher. The latter result is underscored by the 12% higher risk of INE for workers in the agricultural sector than those in the service sector.

We turn now to the national and regional variables. The year dummies capture the time-specific effects affecting the Italian economy during the sample period. The reference year is 1999, and the probability of being in INE is significantly higher in every other year of the sample period (with the exception of 2002 and 2003, where there is no discernable statistical difference from 1999), particularly so starting from 2007, when the risk of INE is 9% higher than in 1999. There are at least two possible and non-mutually exclusive explanations for this result. One relates to the Italian economic performance between 1999 and 2010, which has almost invariably worsened particularly when considering the negative

growth rates of 2008 and 2009. Continuous economic stagnation coupled with the recent crisis may have, therefore, decreased further the probability of finding satisfactory jobs. A second explanation connects with the frequent legislative labour market interventions that by increasing uncertainty may have made employers procrastinate decisions on permanent recruitment.

The inclusion of regional dummies (with Lombardia used as the benchmark region) also provides results of considerable interest. Results for Northern regions are mixed, although they mostly support the lower risk of INE if working in Lombardia. Being in Central regions (Toscana, Umbria and Marche) is associated with a 1.2 to 2.5% higher probability of INE compared to Lombardia. Hence, the difference - though significant - is not remarkable. A comparison with Southern and insular regions however, confirms strongly the North-South divide. Being in regions such as Calabria and Sicilia increases the risk of INE by 7%, a differential comparable to the male/female difference.

As for other regional variables, only the regional unemployment rate is significantly related to INE, with a positive marginal effect. This reflects a sensitivity of INE to business cycle developments, a finding consistent with those for other countries (for the US, see Bureau of Labor Statistics, 2008). On the other hand, the variables accounting for the share of employment in sectors likely to favour non-standard employment, regional GVA growth, and social exclusion are not associated with statistically significant effects.

We have already advanced some plausible explanations of the potential effects of Italian labour market reforms in relation to the marginal effects of the year dummies. In order to investigate further the role played by such reforms, we report below the results of the alternative model specification discussed earlier, where year dummies are replaced by an ordinal variable accounting for the main reforms implemented in that period.

< TABLE 2 HERE >

The results emerging from this alternative specification are mostly in line with those reported above. All the marginal effects associated with the socio-demographic and work characteristics confirm the previous findings. Obviously the substitution of the year dummies with the ‘labour market reforms’ variable does slightly affect the estimates related to regional disparities, leading to more mixed results for Northern regions, but it nevertheless confirms

the overall finding of a higher likelihood of being in INE in Southern and insular regions vis-à-vis Lombardia.

The positive effect of the regional unemployment rate is of an even higher magnitude in these new estimates, and the coefficients of other regional variables are statistically significant. In particular, regional GVA growth is negatively associated with INE (confirming the relationship between the latter and the business cycle). The share of sectors favouring non-standard employment is unsurprisingly positively associated with the risk of INE, while social exclusion displays a negative association. One possible explanation for the latter result could be that social exclusion may act as a threat (similarly to unemployment) and individuals struggling to find employment may willingly accept non-standard jobs also to avoid being socially marginalised rather than just to earn some income.

Overall, these estimations continue to record reassuring diagnostics (see Note of Table 2). We also, as a robustness check, verified the sensitivity of the results to a change in the functional form previously imposed on the specification of the 'labour market reform' variable, by re-estimating the model using two separate dummies (2001 to 2003 = 1, else = 0; and 2004 onwards = 1, else = 0) and found (results not reported but available from the authors upon request) that this alternative specification did not significantly alter the results.

5. Concluding discussion

We employed Italian data from the EU-LFS for the period 1999-2010 to offer evidence on involuntary non-standard (temporary and part-time) employment (INE). In addition to examining individual-specific socio-demographic characteristics and working conditions, we accounted for region-specific variables such as unemployment, growth, and sectoral composition. The study also investigated the incidence of the recent economic crisis and the effects of successive Italian labour market reforms.

Our findings suggest that the incidence of INE follows a trend opposite to that of the business cycle as INE increases when the unemployment rate is higher and GDP growth is lower. This result confirms that INE is, like the unemployment rate, also a measure of labour underutilisation. The peculiar regional economic disparities in Italy also explain different probabilities of workers being in INE, as workers in Southern and insular regions are more likely to be in INE than workers in Central and, in particular, Northern regions (the underlying causes of these regional differences were beyond the scope of this paper). With regard to socio-demographic characteristics, our findings indicate a higher probability of

being in INE for women and young individuals, all else equal. Also, the probability of being in INE has increased significantly over time in Italy.

But what do our findings and, in particular, our regional perspectives contribute to our understanding of INE, especially in terms of the spatial dynamics of this phenomenon in the Italian context? To start with, our findings affirm the notion that INE is manifested and shaped differently by spatial context, as we found, for example, that higher INE levels are experienced where regional GVA growth is lower, and that the probability of being at risk of INE differs considerably by region. Part of the Italian regional disparities are, of course, resource-related and have emerged over decades as part of the industrialisation process as economic and entrepreneurial activity tended to concentrate spatially in the North of the country. Yet it is clear from our data that this historical contextualisation does not suffice in telling the whole story of the INE phenomenon and the endless precariousness that it is generating. On this account, our findings shed further light on at least two important dimensions.

First, the deteriorating situation of the Italian economy, accentuated by the recent recession has, if anything, augmented existing regional disparities bringing yet more inequality into the infamous North-South divide. In particular, our evidence suggests that at unprecedented times of austerity, rather than act as a 'bridge' for the unemployed towards standard forms of employment, the INE 'trap' is actually expanding, and it is barely shoring up the holes left by the large number of individuals losing their 'standard' job (over the sample period the unemployment rate kept increasing in Italy). Moreover, we also found that individuals with higher educational qualifications are at greater risk of INE than those with a medium level of education (e.g., secondary school leaving certificates or vocational diplomas), this being the case especially in less prosperous Italian regions.

Second, whilst it is true that in the absence of the proverbial counter-factual we will never know what would have happened if these labour market reforms had not been implemented, it is clear that these legislative interventions have done little in reducing unemployment via a more flexible and liberalised labour market (in the first quarter of 2014 the unemployment rate in Italy reached 13.6%, the highest quarterly level since 1977), and that – as shown by our data – these reforms have played a significant role in accentuating regional disparities and inequalities, with non-trivial social consequences, including a now pervasive lack of faith in institutions and opportunities for a brighter future.

It is evident that in terms of labour market policy, supra-national agendas have long supplanted intra-national regional concerns. For example, the OECD Jobs Strategy (1994), which promoted flexibility for Europe as a whole, did not address regional disparities. At a time when the debate on labour markets is increasingly shifting towards the extent of national convergence, a core policy implication that flows from our findings is the urgent need to redirect attention towards the increasing intra-national, regional labour market differentials.

By way of acknowledgement of limitations, it is worth pointing out that some of the regional differences unveiled by our results may, of course, be shaped also by factors we were unable to control for (social wage, support network, etc.). These factors, and the way in which such factors may interact with INE, provide a potentially valuable route for further investigation. Although our INE construct aggregation was motivated by the nature and focus of the Italian labour market reforms, data availability permitting, future studies intending extend our analysis could attempt to disaggregate the INE construct ('zero-hour' contracts, casual, agency, etc.) since these different non-standard employment forms may well carry, or be affected by, different spatial implications, particularly if seasonal migration is integrated into the analysis.

References

Agbola, F.W. (2005) Integrating hidden unemployment in the measurement of unemployment in selected OECD countries, *Applied Econometrics and International Development,* 5(2), pp. 93-112.

Amuedo-Dorantes, C. (2000) Work transitions into and out of involuntary temporary employment in a segmented market: evidence from Spain, *Industrial & Labor Relations Review,* 53(2), pp. 309-325.

Barbieri, P. and Scherer, S. (2009) Flexible employment and inequality in Europe, *European Sociological Review,* 25(6), pp. 621-628.

Basso, G., Dolls, M., Eichhorst, W., Leoni, T. and Peichl, A. (2011) The effects of the recent economic crisis on social protection and labour market arrangements across socio-economic groups, IZA Discussion Paper No. 6080.

Baum, C. (2006) *An introduction to modern econometrics using stata,* College Station, TX: Stata Press.

Beccarini, A. (2009) The impact of labour market partial reforms on workers' productivity: the Italian case, *International Journal of Applied Economics,* 6(2), pp. 1-9.

Bruno, G.S.F., Caroleo, F.E., Dessy, O. (2012). Stepping stones versus dead end jobs: exits from temporary contracts in Italy after the 2003 reform. IZA discussion paper no. 6746.

Bureau of Labor Statistics (2008) *The December Review 008*. Washington, DC: Bureau of Labor Statistics.

Cam, S. (2012) Involuntary part-time workers in Britain: evidence from the labour force survey, *Industrial Relations*, 43(3), pp. 242-259.

Caputo, R.K. and Cianni. M. (2001) Correlates of voluntary vs. involuntary part-time employment among US women, *Gender, Work and Organization*, 8(3), pp. 311-325.

Casey, C., Alach, P. (2004). 'Just a temp?': women, temporary, employment and lifestyle. *Work, Employment and Society* 18(3), 459-480.

CEDEFOP (2012) Crisis pushes young people towards involuntary part-time jobs (http://www.cedefop.europa.eu/en/articles/19357.aspx)

Craig, L., Powell, A. (2011). Non-standard work schedules, work-family balance and the gendered division of childcare. *Work, Employment and Society* 25(2), 274-291.

De Graaf-Zijl, M., van den Berg, G.J. and Heyma, A. (2011) Stepping stones for the unemployed: the effect of temporary jobs on the duration until (regular) work, *Journal of Population Economics*, 24(1), pp. 107-139.

De Jong, J., De Cuyper, N., De Witte, H., Silla, I. and Bernhard-Oettel, C. (2007) Motives for accepting temporary employment: a typology, *International Journal of Manpower*, 30(3), pp. 237-252.

Destefanis, S. and Fonseca, R. (2007) Matching efficiency and labour market reform in Italy: a macroeconometric assessment, *Labour*, 21(1), pp. 57-84.

Eichhorst, W., Escudero, V., Marx, P. and Tobin, S. (2010) The impact of the crisis on employment and the role of labour market institutions, IZA Discussion Paper No. 5320.

Eurofound (2007) *Part-time work in Europe*, Dublin: European Foundation for the Improvement of Living and Working Conditions.

European Commission (2009) *Employment in Europe*. Brussels: Directorate-General for Employment, Social Affairs and Equal Opportunities.

European Commission (2012) Labour force survey in the EU, candidate and EFTA countries: main characteristics of national surveys 2010.

European Union (2010) 2010/707/EU: Council Decision of 21 October 2010 on guidelines for the employment policies of the Member States, *Official Journal,* 308, pp. 46-51.

Green, A.E. and Livanos, I. (2013) Involuntary non-standard employment and the economic crisis: regional insights from the UK. *Regional Studies*, DOI: 10.1080/00343404.2013.825712.

Heckman, J.J. (1979) Sample selection bias as a specification error, *Econometrica*, 47(1), pp. 153-161.

Heyes, J. (2011) Flexicurity, employment protection and the job crisis, *Work, Employment and Society*, 25(4), pp. 642-657.

Ichino A., Mealli, F. and Nannicini, T. (2008) From temporary help jobs to permanent employment: what can we learn from matching estimators and their sensitivity? *Journal of Applied Econometrics*, 23(3), pp. 305-327.

IlSole24Ore (2013) Boom di part time involontario, 31 Agosto 2013.

Kalleberg, A.L. (2000) Nonstandard employment relations: part-time, temporary and contract work, *Annual Review of Sociology*, 26(1), pp. 341-365.

Kalleberg, A.L., Rasell, E., Hudson, K., Webster, D., Reskin, B.F., Cassirer, N., Appelbaum, E. (1997). *Nonstandard Work, Substandard Jobs: Flexible Work Arrangements in the U.S.* Washington, DC: Economic Policy Institute.

Kauhanen, M. (2008) Part-time work and involuntary part-time work in the private service sector in Finland, *Economic and Industrial Democracy*, 29(2), pp. 217-248.

Kauhanen, M. and Nätti, J. (2011) Involuntary temporary and part-time work, job quality and well-being at work, Labour Institute for Economic Research Discussion Papers No. 272, Helsinki.

Lodovici, M.S. and Semenza, R. (2008) The Italian case: from employment regulation to welfare reforms? *Social Policy & Administration*, 42(2), pp. 160-176.

Nannicini, T. (2004a) The take-off of temporary employment in the Italian labor market, EUI Working Paper ECO 2004/09.

Nannicini, T. (2004b) Temporary workers: how temporary are they? EUI Working paper ECO 2004/23.

Nickell, S. (1997) Unemployment and labor market rigidities: Europe versus North America, *Journal of Economic Perspectives*, 11(3), pp. 55-74.

Nuñez, I. and Livanos, I. (2011) Temps by Choice? An analysis of reasons for temporary employment among young European workers, ESRC seminar series: Young Workers and Precarious Employment. University of Warwick.

OECD (1990) *OECD Employment outlook – Labour markets in the 1990s: challenges and opportunities*, Paris: OECD.

OECD (1994) *The OECD Jobs Study: evidence and explanations*, Paris: OECD.

OECD (2010) *OECD Employment outlook - From deep recession to fragile recovery: how labour market policies can help promote a quick return to work*, Paris: OECD.

Olsen, K., Kalleberg, A.L. (2004). Non-standard work in two different employment regimes: Norway and the United States. *Work, Employment and Society* 18(2), 321-348.

Pissarides, C.A. (2000) *Equilibrium unemployment theory*. Cambridge, Massachusetts: MIT press books.

Standing, G. (2011) *The precariat*, London: Bloomsbury.

Tealdi, C. (2011) Typical and atypical employment contracts: the case of Italy (mimeograph).

Terrasi, M. (1999) Convergence and divergence across Italian regions, *The Annals of Regional Science*, 33(4), pp. 491-510.

Theron, J. (2014). Non-standard work arrangements in the public sector: the case of South Africa. ILO working paper no. 302. Geneva: International Labor Organization.

Figures and Tables

Figure 1. Real GDP growth in Italy (1960-2012).

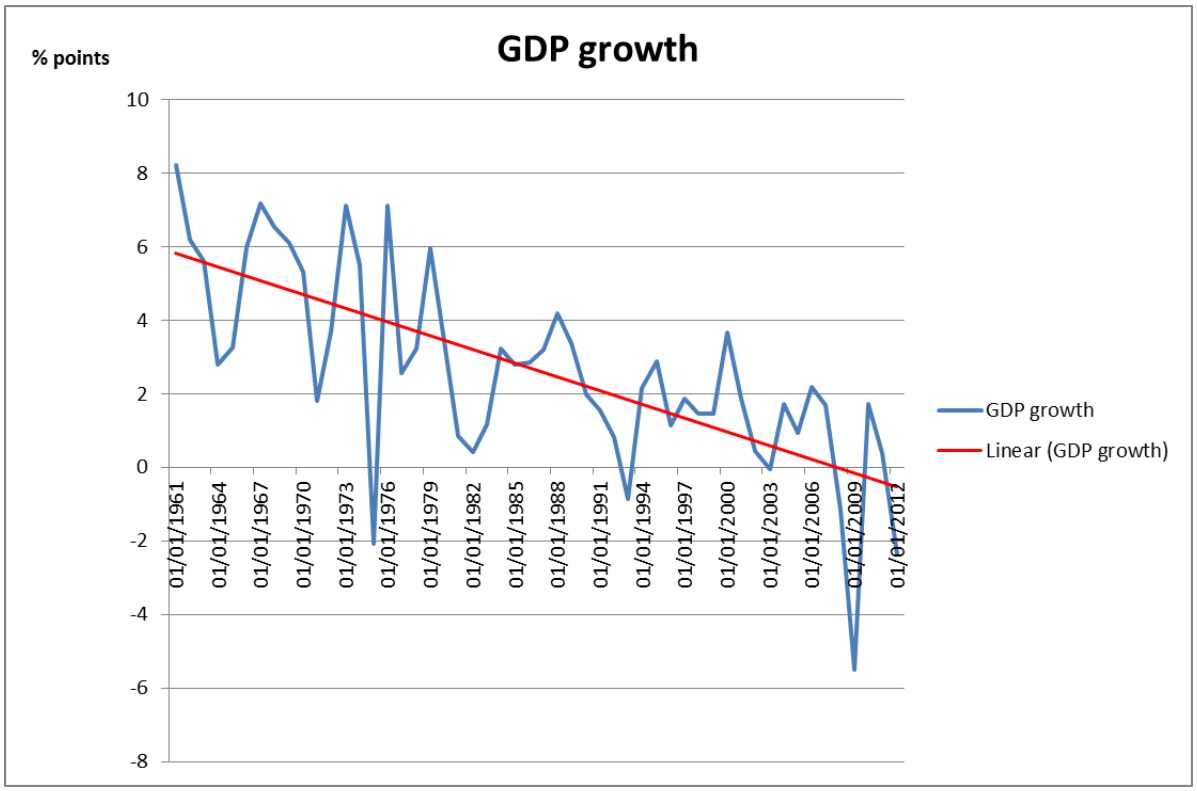
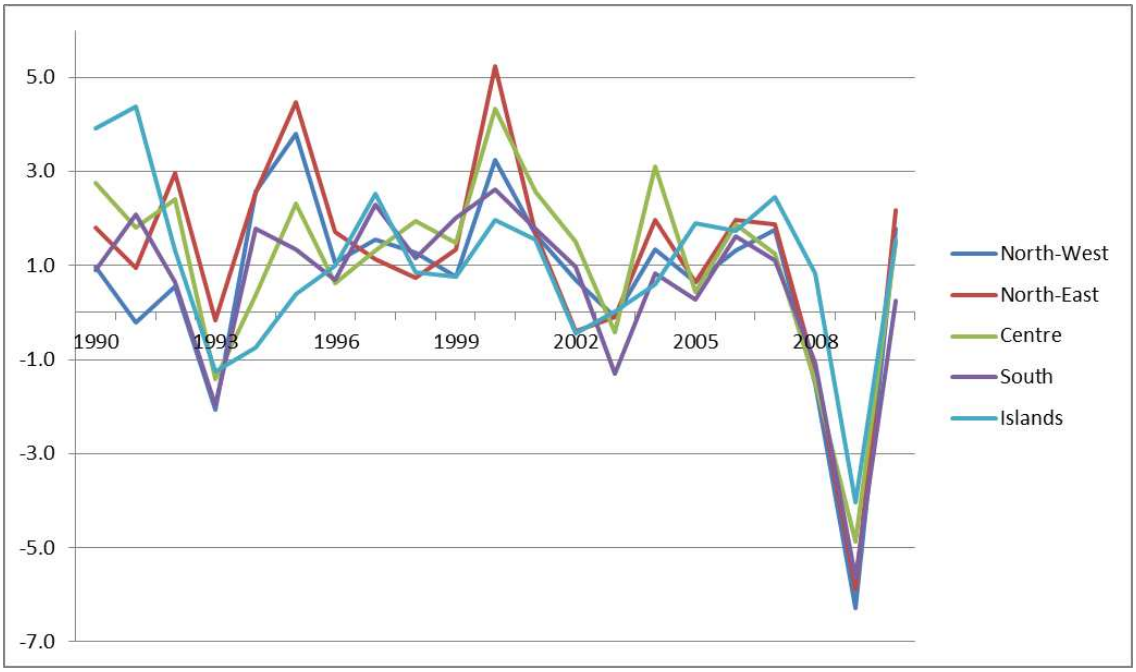


Figure 2. Real GVA growth in Italian macro-regions (1990-2010).



Source: Cambridge Econometrics.

Table 1. INE determinants in Italy (1999-2010) - model with year dummies

Variable	*Characteristics*	*Marginal effects*	
Gender	Female	0.066***	(0.002)
Age	26-35	-0.013***	(0.001)
	36-45	-0.034***	(0.001)
	46-55	-0.057***	(0.020)
	56-65	-0.070***	(0.003)
Marital status	Single	0.024***	(0.001)
	Other	0.019***	(0.001)
Education	Low	0.003*	(0.002)
	High	0.030***	(0.001)
Occupation	Legislatives	-0.031***	(0.002)
	Professionals	-0.007***	(0.001)
	Clerks	0.012***	(0.001)
	Service workers	0.057***	(0.002)
	Skilled agricultural	0.083***	(0.004)
	Craftsmanship	0.055***	(0.002)
	Plant/machine operator	0.032***	(0.002)
	Elementary	0.178***	(0.005)
Sector	Agriculture	0.118***	(0.004)
	Industry	-0.040***	(0.002)
Year dummies	2000	0.003*	(0.002)
	2001	0.006***	(0.002)
	2002	-0.002	(0.002)
	2003	-0.003	(0.002)
	2004	0.048***	(0.003)
	2005	0.065***	(0.004)
	2006	0.073***	(0.004)
	2007	0.087***	(0.004)
	2008	0.087***	(0.004)
	2009	0.089***	(0.005)
	2010	0.102***	(0.004)
Regional dummies	Piemonte	0.006***	(0.002)
	V. d'Aosta	0.004	(0.010)
	Liguria	0.019***	(0.004)
	Trentino	-0.006	(0.008)
	Alto Adige	0.018***	(0.007)
	Veneto	-0.001	(0.003)
	Friuli	0.008***	(0.003)

	E. Romagna	0.006*	(0.003)
	Toscana	0.020***	(0.003)
	Umbria	0.025***	(0.004)
	Marche	0.012***	(0.002)
	Lazio	0.035***	(0.002)
	Abruzzo	0.033***	(0.006)
	Molise	0.045***	(0.009)
	Campania	0.033***	(0.004)
	Puglia	0.045***	(0.009)
	Basilicata	0.041***	(0.011)
	Calabria	0.071***	(0.014)
	Sicilia	0.069***	(0.008)
	Sardegna	0.049***	(0.008)
Demand sectors	Share of empl.	0.0002	(0.001)
Unemployment	Regional unempl. rate	0.002***	(0.0002)
Growth	Regional GVA growth	-0.0003	(0.0002)
Social exclusion	NEET	0.0002	(0.001)
	SECTION B		
Dependent children	No.of children	0.059***	(0.000)
Education	Low	-0.989***	(0.000)
	High	-0.323***	(0.000)
Constant		0.597***	(0.000)
No. of observations		2,696,233	

Note: standard errors in parenthesis. ***, * indicate significance at 10, and 1% respectively. The Probit model passed a battery of customary diagnostic tests: Wald Chi^2 (54) = 115370.82; Log likelihood = -2169599; Prob > Chi^2 = 0.0000.

Table 2. INE determinants in Italy (1999-2010) - model with model with 'labour reforms' dummy

Variable	*Characteristics*	*Marginal effects*	
Gender	Female	0.063***	(0.002)
Age	26-35	-0.012***	(0.001)
	36-45	-0.032***	(0.001)
	46-55	-0.054***	(0.002)
	56-65	-0.067***	(0.002)
Marital status	Single	0.024***	(0.001)
	Other	0.019***	(0.001)
Education	Low	0.001	(0.002)
	High	0.031***	(0.001)
Occupation	Legislatives	-0.030***	(0.002)
	Professionals	-0.006***	(0.001)
	Clerks	0.012***	(0.001)
	Service workers	0.057***	(0.002)
	Skilled agricultural	0.081***	(0.004)
	Craftsmanship	0.055***	(0.002)
	Plant/machine operator	0.032***	(0.002)
	Elementary	0.175***	(0.005)
Sector	Agriculture	0.114***	(0.004)
	Industry	-0.039***	(0.001)
Regional dummies	Piemonte	-0.002	(0.001)
	V. d'Aosta	-0.019***	(0.007)
	Liguria	-0.002	(0.003)
	Trentino	-0.011	(0.007)
	Alto Adige	0.011*	(0.006)
	Veneto	-0.006**	(0.003)
	Friuli	-0.004*	(0.002)
	E. Romagna	-0.005**	(0.002)
	Toscana	0.009***	(0.003)
	Umbria	0.019***	(0.004)
	Marche	0.009***	(0.002)
	Lazio	0.035***	(0.002)
	Abruzzo	0.026***	(0.005)
	Molise	0.032***	(0.007)
	Campania	0.037***	(0.004)
	Puglia	0.037***	(0.008)
	Basilicata	0.031***	(0.009)

	Calabria	0.055***	(0.012)
	Sicilia	0.060***	(0.007)
	Sardegna	0.038***	(0.007)
Demand sectors	Share of empl.	0.001**	(0.001)
Unemployment	Regional unempl. Rate	0.003***	(0.0001)
Growth	Regional GVA growth	-0.001***	(0.0001)
Social exclusion	NEET	-0.007***	(0.0004)
Labour reforms	Ordinal variable	0.057***	(0.002)
	SECTION B		
Dependent children	No.of children	0.059***	(0.000)
Education	Low	-0.989***	(0.000)
	High	-0.323***	(0.000)
Constant		0.597***	(0.000)
No. of observations		2,696,233	

Note: standard errors in parenthesis. ***, **, * indicate significance at 1, 5, and 10% respectively. The Probit model passed a battery of customary diagnostic tests: Wald Chi^2 (44) = 112549.18; Log likelihood = -2170198; Prob > Chi^2 = 0.0000.

Appendix

Table A1. Part-time employment and involuntary part-time employment by region

	Part-time/Total employment			*Involuntary part-time/part-time employment*		
Regions	*1999*	*2004*	*2010*	*1999*	*2004*	*2010*
Piemonte	7.4	10.4	14.4	36.5	31.0	46.8
V. d'Aosta	8.8	11.3	13.5	33.3	17.6	30.8
Liguria	9.0	14.4	18.6	33.8	33.3	46.7
Lombardia	8.5	12.2	16.1	24.2	21.5	37.3
Trentino	13.0	17.1	21.3	8.4	7.4	17.6
Alto Adige	8.5	16.9	18.6	9.8	13.1	28.8
Veneto	8.5	13.2	15.9	21.0	15.5	34.0
Friuli	11.2	14.3	16.9	25.3	18.4	37.0
E. Romagna	8.2	12.7	14.5	27.4	18.0	36.6
Toscana	9.8	14.6	16.5	34.1	28.6	43.5
Umbria	6.9	14.0	17.5	34.8	28.2	48.7
Marche	8.3	13.6	14.3	31.4	25.5	41.8
Lazio	6.7	14.7	16.0	51.5	46.2	56.0
Abruzzo	5.6	11.4	12.8	50.5	36.0	50.4
Molise	6.9	9.9	12.0	55.0	49.4	60.2
Campania	5.7	11.0	10.6	57.9	64.2	68.5
Puglia	5.8	8.7	12.9	59.2	57.2	68.8
Basilicata	5.5	9.8	11.1	46.2	50.9	66.6
Calabria	8.8	10.7	12.9	77.0	63.1	74.5
Sicilia	8.3	11.6	14.0	65.4	66.1	74.0
Sardegna	9.5	12.7	16.7	52.8	49.8	66.7
Italy	8.1	12.5	15.2	37.5	33.3	47.0

Source: Authors' elaborations based on Italian LFS data.

Table A2. Temporary employment and involuntary temporary employment by region

	Temporary/Total employment			*Involuntary temporary/temporary employment*		
Regions	*1999*	*2004*	*2010*	*1999*	*2004*	*2010*
Piemonte	7.2	8.7	11.2	33.9	43.5	59.7
V. d'Aosta	10.2	13.0	11.7	53.0	57.4	74.9
Liguria	6.7	11.8	11.0	46.5	51.2	60.6
Lombardia	6.2	8.5	9.2	32.4	48.2	62.8
Trentino	9.7	13.2	15.1	41.2	43.4	58.1
Alto Adige	7.5	12.4	14.0	39.3	48.2	65.1
Veneto	8.1	9.7	10.2	34.2	50.0	56.9
Friuli	8.3	8.6	11.8	32.2	44.8	64.0
E. Romagna	7.9	11.0	12.0	37.3	46.6	62.4
Toscana	8.3	12.5	14.0	35.3	51.1	63.4
Umbria	8.9	12.5	14.4	52.9	48.1	54.2
Marche	6.8	12.7	12.9	31.1	43.3	50.6
Lazio	8.6	12.6	10.9	46.4	65.2	69.7
Abruzzo	7.3	13.6	12.9	35.3	64.0	72.9
Molise	11.9	13.1	11.4	72.7	66.4	79.9
Campania	12.5	12.4	12.3	64.2	79.2	81.6
Puglia	13.5	16.7	18.3	66.0	74.7	81.9
Basilicata	11.8	13.9	14.7	58.9	75.0	78.1
Calabria	18.5	19.5	21.3	80.4	76.1	86.8
Sicilia	16.3	18.2	17.8	74.8	77.2	87.6
Sardegna	17.2	16.8	17.7	66.1	69.1	79.1
Italy	10.2	12.3	13.0	51.3	60.2	70.0

Source: Authors' elaborations based on Italian LFS data.

Table A3. INE share over total employment by region

	INE/Total employment		
Region	*1999*	*2004*	*2010*
Piemonte	4.3	6.7	13.0
V. d'Aosta	6.1	8.6	12.4
Liguria	5.1	9.6	14.7
Lombardia	3.3	6.2	11.4
Trentino	2.5	6.1	12.1
Alto Adige	3.0	7.4	13.0
Veneto	3.7	6.2	10.3
Friuli	4.3	5.7	12.5
E. Romagna	4.6	6.7	12.1
Toscana	5.4	9.6	15.6
Umbria	5.4	8.9	16.1
Marche	4.1	7.7	11.8
Lazio	5.8	12.8	15.3
Abruzzo	4.3	12.0	14.8
Molise	10.2	13.0	15.0
Campania	8.0	14.1	15.7
Puglia	9.2	15.7	22.6
Basilicata	8.3	13.5	17.4
Calabria	15.3	18.7	26.0
Sicilia	12.6	18.2	23.0
Sardegna	12.3	16.4	22.8
Italy	6.6	12.0	15.2

Source: Authors' elaborations based on Italian LFS data.

Table A4. Sample characteristics

	Full sample (%)	*INE (%)*
Gender		
Male	60	40
Female	40	62
Age band		
16-25	7	12
26-35	22	30
36-45	31	31
46-55	28	20
56-65	12	7
Education level		
Low	41	45
Medium	45	41
High	15	14
Marital status		
Married	63	41
Single	30	51
Other	6	8
Occupation		
Legislators	7	1
Professionals	10	8
Assiciate Professionals	20	13
Clerks	12	12
Service Workers	12	19
Skilled Agricultural	3	2
Craft	17	11
Plant and Machine Operators	9	6
Elementary Occupations	10	29
Region		
C1	9	7
C2	2	1
C3	3	2
C4	14	10
D1	3	2
D2	4	4
D3	6	4
D4	3	2
D5	7	5

E1	6	6
E2	2	2
E3	3	2
E4	6	6
F1	2	2
F2	2	2
F3	6	7
F4	5	7
F5	3	3
F6	4	8
G1	7	12
G2	3	4
Sector of Economic Activity		
Primary	5	11
Industry	30	16
Services	65	73

Source: Authors' elaborations based on Italian LFS data.